Although Cathey, Jr., U.S. Patent No. 5,096,536, does disclose the use of O-ring seals between a wafer and an electrode, there does not appear to be any discussion or suggestion of the use of such seals having properties similar to the claimed heat transferring seal. The Office Action relies on the sealing properties of the O-rings discussed by Cathey, Jr., however, it is noted that the present claims recite additional features (namely a thermal conductivity) of the heat transferring seal that are not addressed by this reference. Indeed, nowhere does Cathey, Jr. appear to appreciate that the O-rings may provide a vehicle for heat transfer, relying instead on the heat transfer properties of the gas introduced into the void between the wafer and the supporting electrode. See, e.g., Cathey, Jr. at col. 4, ll. 58-66. Accordingly, the present claims are patentable over Cathey, Jr.

The rejections under 35 U.S.C. § 112, first paragraph, have been obviated or are unsupported. For example, the first and second thermal conductivities recited in the claims are fully supported by the specification as filed. At p. 9, l. 24-27, there is presented a discussion of "the relation between the thermal conductivity of the gas and the thermal conductivity of the seal". This discussion clearly provides support for the claimed "gas having a first thermal conductivity" and "seal [having] a second thermal conductivity". Moreover, the "thermal conductivity of the gas" is discussed at p. 9, ll. 5-8; and, indeed, the ratios of the "thermal conductivites of the two transfer media, i.e., the gas and the heat transferring seal," are discussed at p. 9, ll. 9-13. For the Office Action to now suggest that the claimed features are not supported by the specification is disingenuous.

In so far as the rejection points to the previously claimed "cross-section configured to transfer heat to or from the substrate uniformly", the rejection has been obviated by the cancellation of this feature from the claims. Nevertheless, it is noted that this material is supported by the specification as filed, which explains, for example at p. 9, that the cross-section of the heat transfer seal (as an element of the heat transfer function) may be adjusted to accomplish the desired uniform heat transfer.

Claims 5 and 16 are fully supported by the specification as filed. For example, at p. 10, ll. 8-10, it is indicated that the lower surface of the seal can have an adhesive layer such that the seal can be locked in adhering engagement with the lower electrode. The discussion of the "adhesive layer" provides more than adequate support for the claimed subject matter and the rejection set forth in the Office Action is not supported by the facts.

The limitations recited in claims 4, 12 and 13 appeared in this application as filed and are self-explanatory. Accordingly, amendments to the specification have been made in accordance with the practice authorized by MPEP 608.01(l). Accordingly, the rejections of these claims are now moot.

The rejections under 35 U.S.C. § 112, second paragraph, have been obviated by appropriate amendments (e.g., to claims 1 and 14 wherein the relationship of the first and second thermal conductivities is clearly recited). It is further noted that the term "adhesive" as used in claim 5 is a common term. Its use is consistent with its customary meaning (note that Webster's New World Dictionary, 2d ed. defines adhesive as: sticking and not coming loose; clinging; or gummed; sticky – this is consistent with the discussion at p. 10, ll. 8-10, wherein it is indicated that the lower surface of the seal can have an adhesive layer such that the seal can be locked in adhering engagement with the lower electrode). Further, an on-line search of U.S. patents dating from 1971, revealed that approximately 59,164 issued patents have included the term "adhesive" in the claims. Thus, it appears that the U.S. Patent Office is familiar with the use and meaning of this term.

Please charge any deficiencies of fees associated with this communication to our Deposit Account No. 02-2666.

Respectfully submitted,
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